



## **Arkansas Research Matching Fund (ARMF) 2002 Report**

**From the Arkansas Science & Technology Authority**

The Arkansas Science & Technology Authority was designated as administrator of the Arkansas Research Matching Fund (ARMF) and mandated to provide a report on investment from the Arkansas Research Matching Fund to the Governor and the Legislature by April 1 of even numbered years.

The Arkansas Research Matching Fund (ARMF) was created by Act 1545 of 1999. Act 1201 of 2001 clarified certain payment eligibility issues associated with the fund and appropriated twenty million dollars to the fund. The General Improvement Distribution ACT 1691 of 2001, provided \$2,500,000 from the Executive Branch. The enabling legislation designated the fund to be used as match for specific federal agency awards to researchers at Arkansas colleges and universities.

The first ARMF investment report was sent to the Governor and the Legislature on March 28, 2000. This report is for information obtained since that date. A chronological list of letters of intent to apply for funds from the ARMF by Arkansas college and university researchers was constructed by the Authority (Appendix I). The Authority compiled a list of federal grants, their request amounts and award dates. Grants were grouped into awarded and possible awards. Thirty-five projects, totaling \$20,238,343, with a required match of \$7,970,026, have fulfilled the initial administrative requirements but have not been acted upon by the Authority's Board (Appendix II). During this reporting period, no funds have been released to the Authority. There are forty-four proposals that are pending at federal agencies for possible funding. The amount of funds requested for the pending proposals is \$17,097,436 with a match of \$8,956,709 (Appendix III).

The thirty-five federal awards indicated that Arkansas scientists could compete on a national level for federal funding, if they had access to the required match. These types of projects are important to the state's economy because of the potential to commercialize the research.

Previous experience has illustrated that a state match for research funds not only leverages the approved federal grants but also positions Arkansas scientists to seek and receive follow-on awards. Every dollar invested in the Arkansas Experimental Program to Stimulate Competitive Research (EPSCoR) projects between 1990-1995 generated \$3.94 in additional research funding by the National Science Foundation and the National Institutes of Health.

It is significant to note that replacing the limited EPSCoR view of research matching with the broader ARMF view has demonstrated Arkansas' ability to compete for federal research funds. This is important in the context of 21<sup>st</sup> Century requirements for economic development which requires investment in new knowledge, education, and training of a knowledge based work force.

## APPENDIX I

### Arkansas Research Matching Fund Chronological List of Letters of Intent to Apply for Funds

Date Received	Inst.	Federal Agency	Principal Investigator	Requested Federal	Requested State Match
3/31/00	UAF	ARO*	Gregory J. Salamo	\$318,356	\$159,178
4/10/00	UAF	ONR*	Reeta Vyas	\$114,754	\$57,377
4/18/00	ASU	NSF	Starla S. Vanderpool	\$85,187	\$85,187
4/21/00	UALR	NASA*	M. Keith Hudson	\$256,250	\$93,750
4/25/00	UAF	ONR	Juan C. Balda	\$90,000	\$90,000
5/1/00	UAF	DLA	Terry R. Collins	\$70,000	\$70,000
5/17/00	UAF	DOE	Jerry Havens	\$276,282	\$138,141
5/17/00	UAF	AFOSR*	Peter Pulay	\$354,322	\$177,161
5/17/00	UAF	AFOSR*	R. Paneer Selvam	\$184,746	\$92,373
5/17/00	UAF	AFOSR*	Sharad Yedave	\$157,217	\$78,608
5/25/00	UAF	USED	Linda Tichenor	\$454,950	\$228,846
5/26/00	UAF	USED	Gregory J. Salamo	\$294,322	\$241,743
5/31/00	UALR	NASA	M. Keith Hudson	\$225,000	\$113,895
6/6/00	UCA	NSF	Paul V. Hamilton	\$136,672	\$58,574
6/6/00	UAC	NSF	James A. Murray	\$64,334	\$32,169
6/14/00	UAF	AFOSR*	Simon Ang	\$254,739	\$127,369
6/27/00	UAF	NSF	Stephen A. Batzer	\$99,999	\$100,000
6/27/00	UAF	NSF	Gregory J. Salamo	\$42,500	\$42,500
6/27/00	UAF	NSF	William Feldman	\$498,264	\$67,290
6/29/00	ASU	NSF	Boa-An Li	\$90,002	\$57,351
7/17/00	UAF	NSF*	Derek Sears	\$746,269	\$486,329
7/17/00	UAF	NSF	Otto Loewer	\$499,657	\$173,610
7/20/00	UAMS	ONR*	Russell B. Melchert	\$341,127	\$170,564
7/27/00	UCA	NSF	Paul V. Hamilton	\$136,672	\$58,574
8/14/00	UAF	NSF	Charles Wilkins	\$402,343	\$402,340
8/14/00	UAF	NSF	Gregory J. Salamo	\$390,000	\$390,000
8/16/00	UAF	AFOSR*	Yujie Ding	\$185,329	\$61,777
8/21/00	UAF	ONR	Fred D. Barlow	\$122,036	\$122,036
8/29/00	UALR	NASA*	Keith Hudson	\$400,000	\$232,825
8/30/00	UAF	DURIP	Juan C. Balda	\$122,036	\$122,036
9/13/00	UAMS	NIH	Curtis L. Lowery	\$641,874	\$641,874

9/26/00	UAF	NSF*	John G. Hehr	\$731,872	\$731,872
9/27/00	UAF	NIH/COBRE*	Francis Millet	\$9,631,312	\$575,000
9/27/00	UAF	NSF*	Yujie Ding	\$500,000	\$500,000
9/29/00	UAF	ARO	Pamela Jansma	\$331,305	\$165,652
9/29/00	UAF	ONR	Min Xiao	\$287,083	\$143,541
9/29/00	UAF	ARO	John English	\$385,530	\$213,898
9/29/00	UAF	ONR	Paul M. Thibado	\$463,994	\$232,002
9/29/00	UAF	AFOSR*	R. Paneer Selvam	\$197,994	\$98,997
9/29/00	UAF	ONR	Surendra P. Singh	\$322,077	\$161,038
9/29/00	UAF	AFOSR*	Yujie J. Ding	\$196,976	\$99,488
9/29/00	UAF	ONR	Gregory J. Salamo	\$288,876	\$144,437
12/22/00	UAF	USDA	Joshua Sakon	\$49,000	\$49,000
12/22/00	UAF	USDA	Michael B. Ferrari	\$50,000	\$50,000
12/22/00	UAF	USDA	Kenneth L. Korth	\$21,000	\$21,000
1/16/01	UAMS	EPA	Richard H. Kennedy	\$313,570	\$330,324
1/17/01	UAF	NSF	John G. Hehr	\$268,128	\$268,128
1/19/01	UCA	NSF	James A Murray	\$59,061	\$59,061
1/29/01	UAF	NSF	Gregory J. Salamo	\$670,000	\$221,170
3/5/01	UAF	NSF	Otto Loewer	\$173,610	\$499,657
3/20/01	UAF	DoD/ONR*	Laurent Bellaiche	\$272,421	\$136,210
3/20/01	UAF	NSF	Charles Wilkins	\$560,534	\$480,535
3/27/01	UALR	NSF	Swaminadham Midturi	\$200,382	\$6,000
3/28/01	UALR	NASA	Keith Hudson	\$256,250	\$93,750
3/28/01	UAF	NSF	Paul Thibado	\$229,666	\$98,428
3/28/01	UAF	NSF	Magda El-Shenawee	\$432,409	\$25,000
3/28/01	UAF	NSF	Paul Thibado	\$500,931	\$49,067
3/28/01	UAF	NSF	Gregory J. Salamo	\$1,999,867	\$100,066
3/28/01	UAF	NIH	Randall W. Woods	\$2,000,000	\$2,000,000
4/4/01	UAF	NSF*	John Hehr	\$100,000	\$100,000
4/4/01	UAF	DoD/ONR*	Jaun Balda	\$365,000	\$182,503
4/6/01	UAF	DoD	Gregory J. Salamo	\$192,000	\$48,000
4/6/01	UAF	NSF	Glen S. Mattioli	\$567,281	\$25,317
9/21/01	UAF	NSF	John Shultz	\$286,017	\$122,579
10/15/01	UALR	NASA	Keith Hudson	\$412,500	\$105,634
1/24/02	UAF	NSF	Russell J. Deaton	\$499,998	\$124,999
1/24/02	UAF	ONR	Fred D. Barlow	\$73,342	\$25,114
1/24/02	UAF	NIH	Randall W. Woods	\$2,000,000	\$2,000,000

1/28/02	UAF	ONR	Steve Tung	\$221,319	\$110,659
1/28/02	UAF	DoD*	Wookwon Lee	\$226,828	\$113,415
1/28/02	UAF	DoD*	Ajay P. Malshe	\$232,971	\$116,485
1/28/02	UAF	DoD*	John English	\$446,638	\$146,174
1/28/02	UAF	DoD*	Yedave & Malshe	\$224,160	\$112,080
1/28/02	UAF	DoD*	Min Xiao	\$343,260	\$171,630
1/28/02	UAF	DoD*	Gregory J. Salamo	\$366,254	\$183,127
1/28/02	UAF	DoD*	R. Paneer Selvam	\$390,131	\$195,065
1/28/02	UAF	ONR	Paul M. Thibado	\$549,143	\$274,571
1/28/02	UAF	DoD	Julio Gea-Banacloche	\$205,482	\$102,741
1/31/02	UAF	NSF	John R. English	\$250,000	\$187,500
2/1/02	UALR	NASA*	Keith Hudson	\$287,500	\$193,031
			Total	\$37,688,911	\$17,167,422

*EPSCoR	Experimental Program to Stimulate Competitive Research
AFOSR	Air Force Office of Scientific Research
ARO	Army Research Office
DLA	Defense Logistics Agency
DURIP	Defense University Research Instrumentation Proposal
DoD	Department of Defense
DOE	Department of Energy
NASA	National Aeronautical and Space Administration
NIH	National Institutes of Health
NSF	National Science Foundation
ONR	Office of Naval Research
USDA	United States Department of Agriculture
USED	United States Department of Education

## APPENDIX II

### Arkansas Research Matching Fund Applications Chronological Order of Match Eligibility

Matching Fund Application Receipt	Authority Assigned Number	Federal Agency	Inst.	Principal Investigator	Federal Grant Award	ARMF Request	ARMF Funded
3/31/00	00-ARMF-13	ARO*	UAF	Gregory J. Salamo	\$318,356	\$159,178	0.00
4/10/00	00-ARMF-14	ONR*	UAF	Reeta Vyas	\$114,754	\$57,377	0.00
4/17/00	00-ARMF-15	NSF	ASU	Starla Vanderpool	\$85,187	\$85,187	0.00
4/21/00	00-ARMF-16	NASA	UALR	M. Keith Hudson	\$256,250	\$93,750	0.00
4/25/00	00-ARMF-17	ONR	UAF	Juan C. Balda	\$90,000	\$90,000	0.00
5/17/00	00-ARMF-18	DOE	UAF	Jerry Havens	\$276,282	\$138,141	0.00
5/17/00	00-ARMF-19	AFOSR*	UAF	Peter Pulay	\$354,322	\$177,161	0.00
5/17/00	00-ARMF-20	AFOSR*	UAF	R. Paneer Selvam	\$184,746	\$92,373	0.00
5/17/00	00-ARMF-21	AFOSR*	UAF	Sharad Yedave	\$157,217	\$78,608	0.00
5/31/00	00-ARMF-22	NASA*	UALR	M. Keith Hudson	\$225,000	\$113,895	0.00
6/14/00	00-ARMF-23	AFOSR*	UAF	Simon Ang	\$254,739	\$127,369	0.00
6/29/00	00-ARMF-24	NSF	ASU	Boa-An Li	\$97,000	\$57,351	0.00
7/17/00	01-ARMF-01	NSF*	UAF	Derek Sears	\$746,269	\$486,329	0.00
7/20/00	01-ARMF-02	ONR*	UAMS	Russell B. Melchert	\$341,127	\$170,564	0.00
7/27/00	01-ARMF-03	NSF	UCA	Paul V. Hamilton	\$136,672	\$58,574	0.00
8/14/00	01-ARMF-04	NSF	UAF	Charles Wilkins	\$402,343	\$402,340	0.00
8/14/00	01-ARMF-05	NSF	UAF	Gregory J. Salamo	\$390,000	\$390,000	0.00
8/29/00	01-ARMF-06	NASA*	UALR	Keith Hudson	\$400,000	\$232,825	0.00
9/13/00	01-ARMF-07	NIH	UAMS	Curtis L. Lowery	\$641,874	\$641,874	0.00
9/26/00	01-ARMF-08	NSF*	UAF	John G. Hehr	\$731,872	\$731,872	0.00
9/27/00	01-ARMF-09	NIH/ COBRE*	UAF	Francis Millet	\$9,631,312	\$575,000	0.00
9/27/00	01-ARMF-10	NSF*	UAF	Yujie Ding	\$500,000	\$500,000	0.00
1/17/01	01-ARMF-11	NSF	UAF	John G. Hehr	\$268,128	\$268,128	0.00
1/19/01	01-ARMF-12	NSF	UCA	James A Murray	\$59,061	\$59,061	0.00
1/29/01	01-ARMF-13	NSF	UAF	Gregory J. Salamo	\$670,000	\$221,170	0.00
3/5/01	01-ARMF-14	NSF	UAF	Otto Loewer	\$173,610	\$499,657	0.00
3/20/01	01-ARMF-15	DoD/ ONR*	UAF	Laurent Bellaiche	\$272,421	\$136,210	0.00

3/20/01	01-ARMF-16	NSF	UAF	Charles Wilkins	\$560,534	\$480,535	0.00
3/28/01	01-ARMF-17	NASA	UALR	Keith Hudson	\$256,250	\$93,750	0.00
4/4/01	01-ARMF-18	NSF*	UAF	John Hehr	\$100,000	\$100,000	0.00
4/4/01	01-ARMF-19	DoD/ ONR*	UAF	Juan Balda	\$365,000	\$182,503	0.00
4/6/01	01-ARMF-20	DoD	UAF	Gregory J. Salamo	\$192,000	\$48,000	0.00
9/21/01	02-ARMF-01	NSF	UAF	John Shultz	\$286,017	\$122,579	0.00
10/15/01	02-ARMF-02	NASA	UALR	Keith Hudson	\$412,500	\$105,634	0.00
2/1/02	02-ARMF-03	NASA*	UALR	Keith Hudson	\$287,500	\$193,031	0.00
				Total	\$20,238,343	\$7,970,026	0.00

*EPSCoR	Experimental Program to Stimulate Competitive Research
AFOSR	Air Force Office of Scientific Research
ARO	Army Research Office
DoD	Department of Defense
DOE	Department of Energy
NASA	National Aeronautical and Space Administration
NIH	National Institutes of Health
NSF	National Science Foundation
ONR	Office of Naval Research

### APPENDIX III

#### Arkansas Research Matching Fund Applications Chronological Order of Match Eligibility (Pending)

Matching Fund Application Receipt	Inst.	Federal Agency	Principal Investigator	Federal Award	ARMF Request
5/1/00	UAF	DLA	Terry R. Collins	\$70,000	\$70,000
5/26/00	UAF	USED	Linda Tichenor	\$454,950	\$228,846
6/27/00	UAF	NSF	Gregory J. Salamo	\$42,500	\$42,500
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9/29/00	UAF	DoD *	Gregory Salamo	\$288,876	\$144,438
9/29/00	UAF	DoD/ARO*	Pamela Jansma	\$331,305	\$165,652
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9/29/00	UAF	DoD/ARO*	John English	\$385,530	\$213,898
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9/29/00	UAF	DoD/ONR*	Juan C. Balda	\$448,014	\$224,007
9/29/00	UAF	DoD/AFOSR*	Paneer Selvam	\$197,994	\$98,997
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12/22/00	UAF	USDA	Michael B. Ferrari	\$50,000	\$50,000
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1/28/02	UAF	DoD	Wookwon Lee	\$226,828	\$113,415
1/28/02	UAF	DoD	Ajay P. Malshe	\$232,971	\$116,485
1/28/02	UAF	DoD	John English	\$446,638	\$146,174
1/28/02	UAF	DoD	Yedave & Malshe	\$224,160	\$112,080
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1/28/02	UAF	DoD	R. Paneer Selvam	\$390,131	\$195,065
1/28/02	UAF	ONR	Paul M. Thibado	\$549,143	\$274,571
1/28/02	UAF	DoD	Julio Gea-Banacloche	\$205,482	\$102,741
1/31/02	UAF	NSF	John R. English	\$250,000	\$187,500
			Total	\$17,097,436	\$8,956,709

AFOSR	Air Force Office of Scientific Research
ARO	Army Research Office
DLA	Defense Logistics Agency
DoD	Department of Defense
DURIP	Defense University Research Instrumentation Proposal
EPA	Environmental Protection Agency
NIH	National Institutes of Health
NSF	National Science Foundation
ONR	Office of Naval Research
USDA	United States Department of Agriculture
USED	United States Department of Education